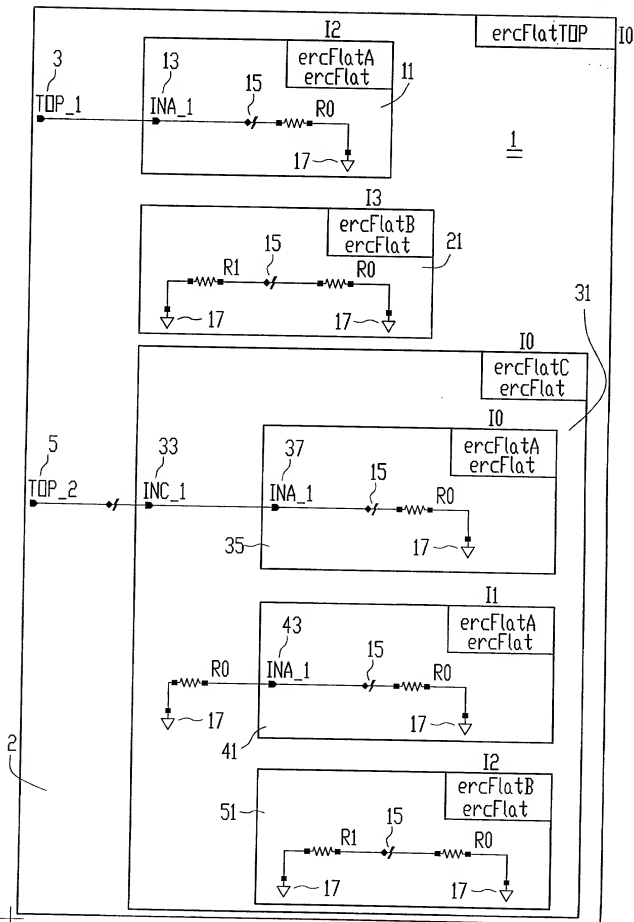


FIG. 1



208040-29005001

FIG. 2

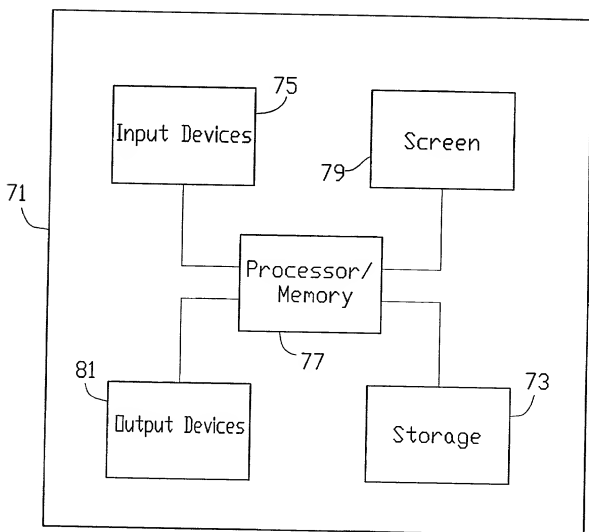
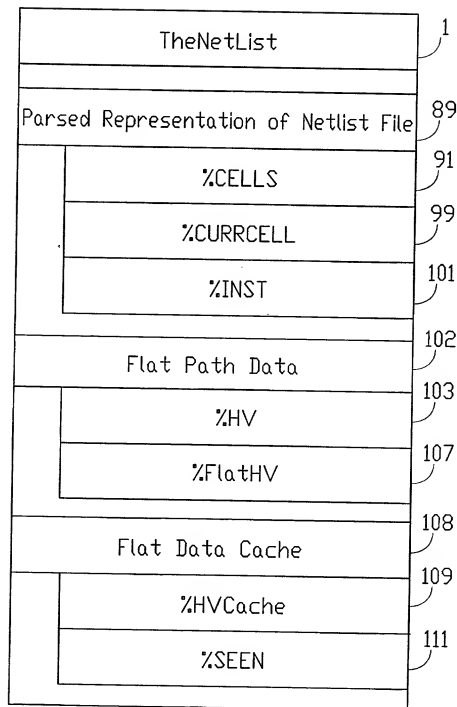
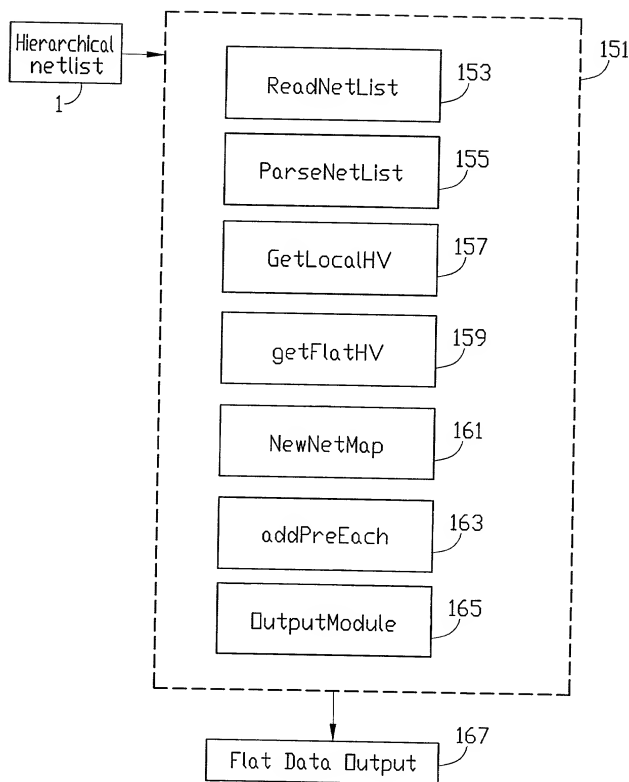


FIG. 3



10050067.040802

FIG. 4



20050067.040802

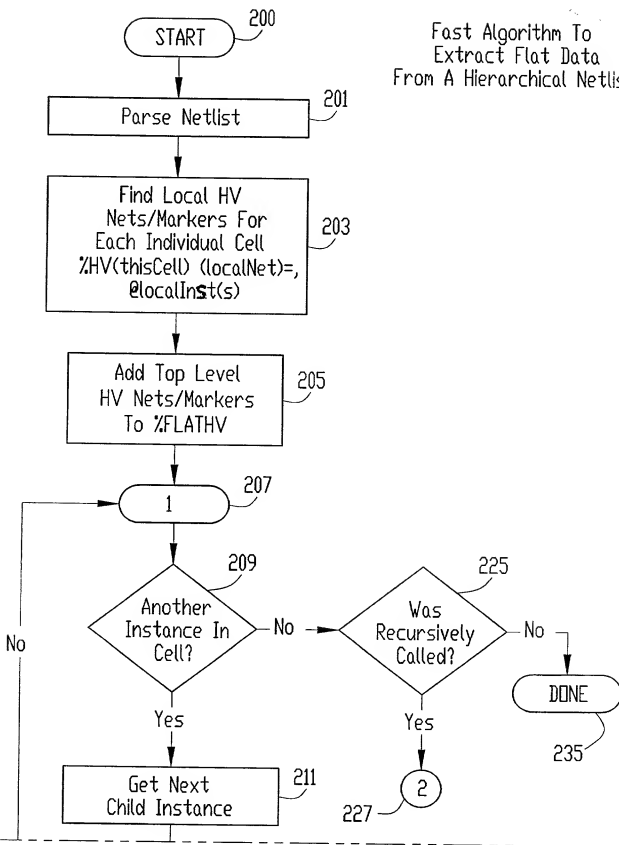
FIG. 5

FIG. 5(A)

FIG. 5(B)

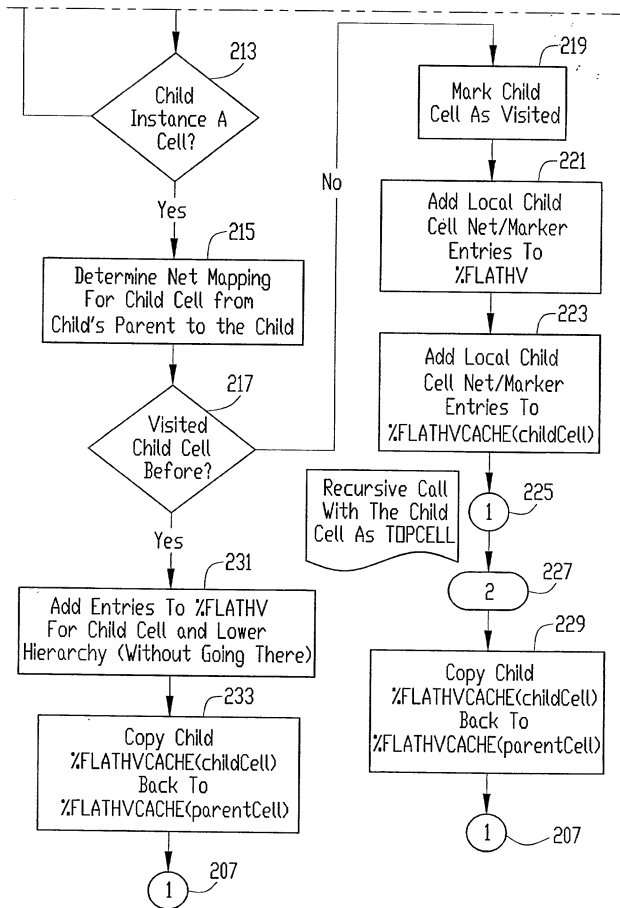
FIG. 5(A)

Fast Algorithm To  
Extract Flat Data  
From A Hierarchical Netlist



10050067.040802

FIG. 5(B)



10050067.040802

FIG. 6(B)

```

Flat
  INA_1----->( X0 )
Check
Deep
Cell=<ercFlatB>
Flat
Check
Deep
  net2----->( X0 )
Cell=<ercFlatTOP>
Flat
Check
  TOP_1----->( I2/X0 )
  TOP_2----->( I0/I0/X0 )
Deep
  I0/net2----->( I0/I1/X0 )
  I0/I2/net2----->( I0/I2/X0 )
  I3/net2----->( I3/X0 )
Cell=<ercFlatC>
Flat
Check
  net2----->( I1/X0 )
  INC_1----->( I0/X0 )
Deep
  I2/net2----->( I2/X0 )

```

305

10050067-041802

FIG. 6

FIG. 6(A)

FIG. 6(B)

FIG. 6(A)

PROGRAM OUTPUT

-----%HV...

inst=<ercFlatA>

<INA\_1> ----->( <X0> )

inst=<ercFlatB>

<net2> ----->( <X0> )

inst=<ercFlatTOP>

<TOP\_2> ----->( <X0> )

301

-----%FLATHV...

/I0/net2----->( /I0/I1/X0 )

/TOP\_1----->( /I2/X0 )

/I0/I2/net2----->( /I0/I2/X0 )

/I3/net2----->( /I3/X0 )

/TOP\_2----->( /X0 /I0/I0/X0 )

303

-----%FLATHVCACHE...

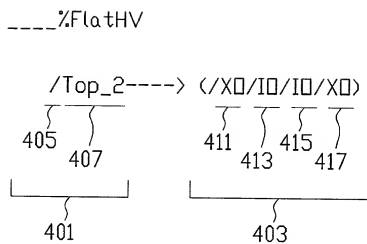
Cell=<ercFlatA>

top  
path  
keys

10050067.040802



FIG. 7



208040.29005007